

What is claimed is:

1. A segmented plate adapted for assembly within a confined area having a limited access thereto, comprising:

- 5 (a) the plate, as assembled, having
 an exterior perimeter,
 an aperture having an inner perimeter,
 a plurality of generally rigid plate-sections, and
 extending at least partially along adjacent boundaries of said plate-
10 sections having been adjacently arranged, is a self-lock seam; and
 (b) each of said plate-sections sized smaller than the access to permit passage
 therethrough for the assembly.

2. The segmented plate of claim 1, having been assembled, and wherein:

- 15 (a) said inner perimeter comprises an inward-boundary of at least each of a
 first and second of said plate-sections;
 (b) a third and fourth of said plate-sections each comprise a respective third
 and fourth edge-boundary; and
 (c) said adjacent boundaries comprise
20 said third edge-boundary adjacent a first edge-boundary of each of
 said first and second plate-sections, and
 said fourth edge-boundary adjacent a second edge-boundary of each
 of said first and second plate-sections.

25 3. The segmented plate of claim 1, having been assembled, and wherein:

- (a) said inner perimeter comprises a first curved inward-boundary of a first
 of said plate-sections and a second curved inward-boundary of a second of said
 plate-sections;
 (b) first and second collar pieces are arranged, in water-impermeable
30 fashion, adjacent said first and second curved inward-boundaries; and
 (c) said first and second collar pieces are further arranged around a
 periphery of a central sub-assembly.

4. The segmented plate of claim 3 wherein:

(a) the confined area comprises a chamber of a deaerator tank and the assembled segmented plate is secured to enclose a tray assembly;

5 (b) said periphery of said central sub-assembly is generally circular and said central sub-assembly comprises a spray nozzle; and

(c) first and second top supports are arranged around said periphery and around said first and second collar pieces.

5. The segmented plate of claim 4 wherein:

10 (a) a third and fourth of said plate-sections each comprise a respective third and fourth edge-boundary;

(b) said adjacent boundaries comprise

said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and

15 said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections; and

(c) sandwiched between said first collar piece and said first top support are: a portion of said third edge-boundary, a portion of each of said adjacent first edge-boundaries of said first and second plate-sections, a portion of said first curved inward-boundary, and a portion of said second curved inward-boundary.

6. The segmented plate of claim 1, having been assembled, and wherein:

(a) said aperture comprises an opening in said exterior perimeter;

25 (b) said inner perimeter comprises an edge-boundary of a first of said plate-sections;

(c) a first collar piece is arranged, in water-impermeable fashion, adjacent said first edge-boundary; and

(d) said first collar piece is further arranged around at least a portion of a periphery of a sub-assembly having a vent passage therethrough.

7. The segmented plate of claim 6 wherein:
- (a) the confined area comprises a chamber of a deaerator tank;
 - (b) a third and fourth of said plate-sections each comprise a respective third and fourth edge-boundary; and
 - 5 (c) said adjacent boundaries comprise
 - said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and
 - said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections.
- 10 8. The segmented plate of claim 1 wherein:
- (a) the confined area comprises a chamber of a deaerator tank;
 - (b) said self-lock seam comprises an interlocking of an U-shaped edge of each said plate-section adjacently arranged;
 - 15 (c) said generally rigid plate-sections are made of a material thermally expandable upon exposure to a range of temperatures to which the confined area may be exposed; and
 - (d) a flexible barrier, made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a
 - 20 gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant, is interposed between said interior perimeter and at least a portion of a periphery of a sub-assembly having a spray nozzle.
- 25 9. The segmented plate of claim 8 wherein:
- (a) said inner perimeter comprises a first edge-boundary of a first of said plate-sections;
 - (b) said first edge-boundary is arranged, in water-impermeable fashion, adjacent said periphery of said sub-assembly; and
 - 30 (c) said material for said generally rigid plate-sections is selected from the group consisting of a metal, an alloy, and a ceramic.

10. A segmented plate adapted for assembly within a chamber of a deaerator tank having a limited access thereto, comprising:

(a) the plate, as assembled to enclose a tray assembly, having an exterior perimeter,

5 a plurality of generally rigid plate-sections, and extending at least partially along adjacent boundaries of said plate-sections having been adjacently arranged, is a self-lock seam; and

(b) each of said plate-sections sized smaller than the access to permit passage therethrough for the assembly.

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11. The segmented plate of claim 10, having been assembled and secured to so enclose said tray assembly, further comprising:

(a) an aperture having an inner perimeter comprising a first edge-boundary of a first of said plate-sections;

15 (b) a first collar piece arranged, in water-impermeable fashion, adjacent said first edge-boundary; and

(c) said first collar piece is further arranged around a periphery of a sub-assembly having a vent passage therethrough.

20 **12.** The segmented plate of claim 11 wherein:

(a) said inner perimeter further comprises a second edge-boundary of a second of said plate-sections;

(b) a second collar piece is arranged, in water-impermeable fashion, adjacent said second edge-boundary;

25 (c) said second collar piece is further arranged around said periphery of said sub-assembly; and

(d) said sub-assembly further comprises a spray nozzle.

13. The segmented plate of claim 10, having been assembled, and wherein:

30 (a) said exterior perimeter is of a final geometric size larger than may pass through the limited access;

(b) said self-lock seam comprises an interlocking of an U-shaped edge of each said plate-section adjacently arranged;

(c) said exterior perimeter is of a shape selected from the group consisting of an oval, a circle, a polygon, and an irregular shape; and

(d) a flexible barrier, made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant is interposed between said exterior perimeter and a tray enclosure.

14. The segmented plate of claim 13:

(a) further comprising an aperture having an inner perimeter comprising an inward-boundary of each of a first and second of said plate-sections, said inner perimeter is of a shape selected from the group consisting of an oval, a circle, a polygon, and an irregular shape;

(b) a third and fourth of said plate-sections each comprise a respective third and fourth edge-boundary; and

(c) said adjacent boundaries comprise

said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and

said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections.

15. A process for assembling a segmented plate within a confined area having a limited access thereto, comprising:

(a) passing each of a plurality of generally rigid plate-sections through the limited access;

(b) adjacently arranging at least two of said plate-sections, by interlocking a U-shaped edge of said two plate-sections generally along adjacent boundaries thereof; and

(c) constructing the segmented plate whereby a final geometric size of an exterior perimeter thereof is larger than may pass through the limited access.

16. The process of claim 15:

(a) wherein said step of adjacently arranging further comprises

arranging a third edge-boundary of a third of said plate-sections adjacent a first edge-boundary of each of a first and second of said plate-sections, and

arranging a fourth edge-boundary of a fourth of said plate-sections adjacent a second edge-boundary of each of said first and second plate-sections; and

(b) further comprising the step of arranging first and second collar pieces, in water-impermeable fashion, adjacent a respective first and second inward-boundary of each said first and second plate-sections.

17. The process of claim 16 further comprising the steps of:

(a) arranging said collar pieces, each of which comprises a curvature, around a periphery of a central sub-assembly having a spray nozzle therethrough;

(b) arranging first and second top supports around said periphery of said central sub-assembly sandwiching a portion of said first and second inward-boundaries of each said first and second plate-sections between said first and second top supports and said first and second collar pieces; and

(c) securing said first and second top supports, effecting a water-impermeable seam.

18. The process of claim 16:

(a) wherein the confined area comprises a chamber of a deaerator tank; and said step of arranging first and second collar pieces further comprises, first, applying a flexible barrier made of a material selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant, to said respective inward-boundaries, and then so arranging said collar pieces to produce a generally water-impermeable seal; and

(b) further comprising the step of securing the assembled sectioned plate to enclose a tray assembly adapted for use in carrying out deaerating.

19. The process of claim 15:

(a) wherein said step of adjacently arranging further comprises arranging a third edge-boundary of a third of said plate-sections adjacent a first edge-boundary

of each of a first and second of said plate-sections, said first plate-section oriented with a first inward-edge-boundary creating an opening in said exterior perimeter, and

5 (b) further comprising the steps of arranging a collar piece adjacent said first inward-edge-boundary and around at least a portion of a periphery of a sub-assembly having a spray nozzle.

20. The process of claim 15:

10 (a) wherein said step of adjacently arranging further comprises
arranging a third edge-boundary of a third of said plate-sections
adjacent a first edge-boundary of each of a first and second of said plate-
sections,

15 arranging a fourth edge-boundary of a fourth of said plate-sections
adjacent a second edge-boundary of each of said first and second plate-
sections, and

said first and second plate-sections oriented with a respective first
and second curved inward-boundary creating an aperture within the
segmented plate; and

20 (b) further comprising the step of sandwiching, between a first collar piece
and a first top support, a portion of said third edge-boundary, a portion of said first
curved inward-boundary, and a portion of said second curved inward-boundary.

**21. A segmented plate adapted for assembly within a confined area having a limited
access thereto, comprising:**

25 (a) the plate, as assembled, having
an exterior perimeter,
an aperture having an inner perimeter,
a plurality of generally rigid plate-sections, and
interposed between and along adjacent boundaries of said plate-
30 sections having been adjacently arranged, is a flexible barrier; and

(b) each of said plate-sections sized smaller than the access to permit passage
therethrough for the assembly.

22. The segmented plate of claim 21 wherein:

(a) the confined area comprises a chamber of a deaerator tank;

(b) a first, second, third and fourth of said plate-sections each comprise a respective third and fourth edge-boundary;

5 (c) said adjacent boundaries comprise

said third edge-boundary adjacent a first edge-boundary of each of said first and second plate-sections, and

said fourth edge-boundary adjacent a second edge-boundary of each of said first and second plate-sections; and

10 (d) said flexible barrier is made of a material having resiliency and adapted to produce a generally water-impermeable seal, selected from the group consisting of a gasket tape, a joint sealant, a plastic adhesive, a caulking compound, weather stripping, and a high temperature sealant.